

Title (en)

MOTOR CURRENT BALANCING METHOD FOR ESP SYSTEM

Title (de)

MOTORSTROMAUSGLEICHsverfahren für ESP-System

Title (fr)

PROCÉDÉ D'ÉQUILIBRAGE DE COURANT DE MOTEUR POUR SYSTÈME ESP

Publication

EP 4162146 A1 20230412 (EN)

Application

EP 21817167 A 20210601

Priority

- US 202016891902 A 20200603
- US 2021070645 W 20210601

Abstract (en)

[origin: US2021384858A1] Systems and methods for reducing current imbalance in a motor, where one embodiment comprises a system having an ESP installed in a well, an electric drive, and a power cable coupled between the drive and the ESP's motor. The electric drive generates output voltage waveforms (e.g., PWM waveforms) for multiple phases that may have different impedances. The system monitors the current of each phase at the output of the electric drive and determines a current imbalance between the phases. The drive generates voltage adjustments (e.g., duty cycle adjustments) corresponding to the respective phases, and applies each voltage adjustment to the corresponding voltage waveform. For example, the drive may determine an average of the phase currents, determine the difference between each phase current and the average, and multiply the result by a gain factor to generate the voltage for each phase. The process is iteratively performed to reduce the current imbalance.

IPC 8 full level

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CPC (source: EP US)

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DOCDB simple family (publication)

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